

The Proposed Crossing Over Indian River Inlet

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DelDOT

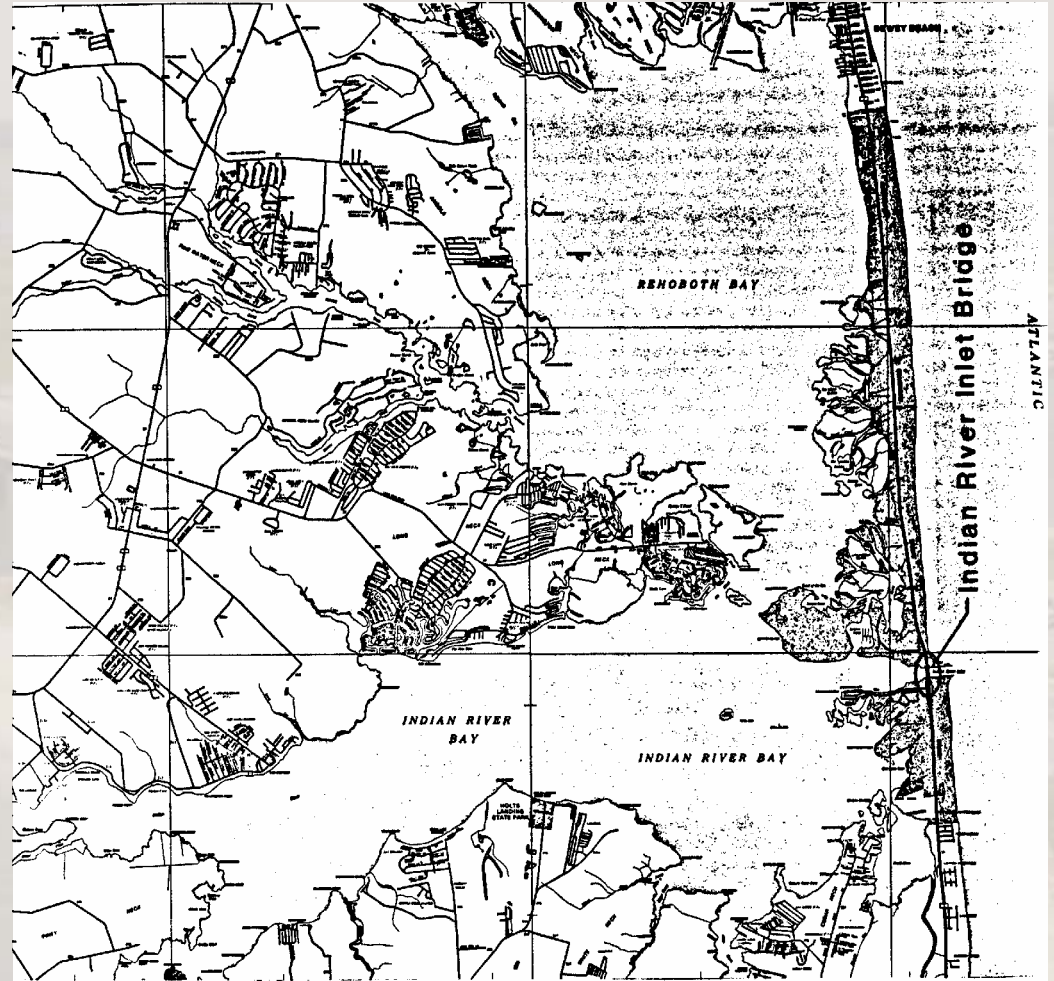
IRIB RFQ Info Meeting, July 26, 2006

Presentation Overview

- Status of Existing Bridge
- Overall IRI Site Project Status
 - Former Bridge Contract
 - Proposed Bridge Project Advanced Utility Project
 - Current Roadway Contract
 - Park Project
 - Demo Project

Indian River Inlet Site

Indian River Inlet is located between Dewey Beach and Bethany Beach in the middle of the Delaware Seashore State Park



Indian River Inlet Site

Provides very scenic views of both the ocean and the bays



Indian River Inlet Site



Indian River Inlet Site

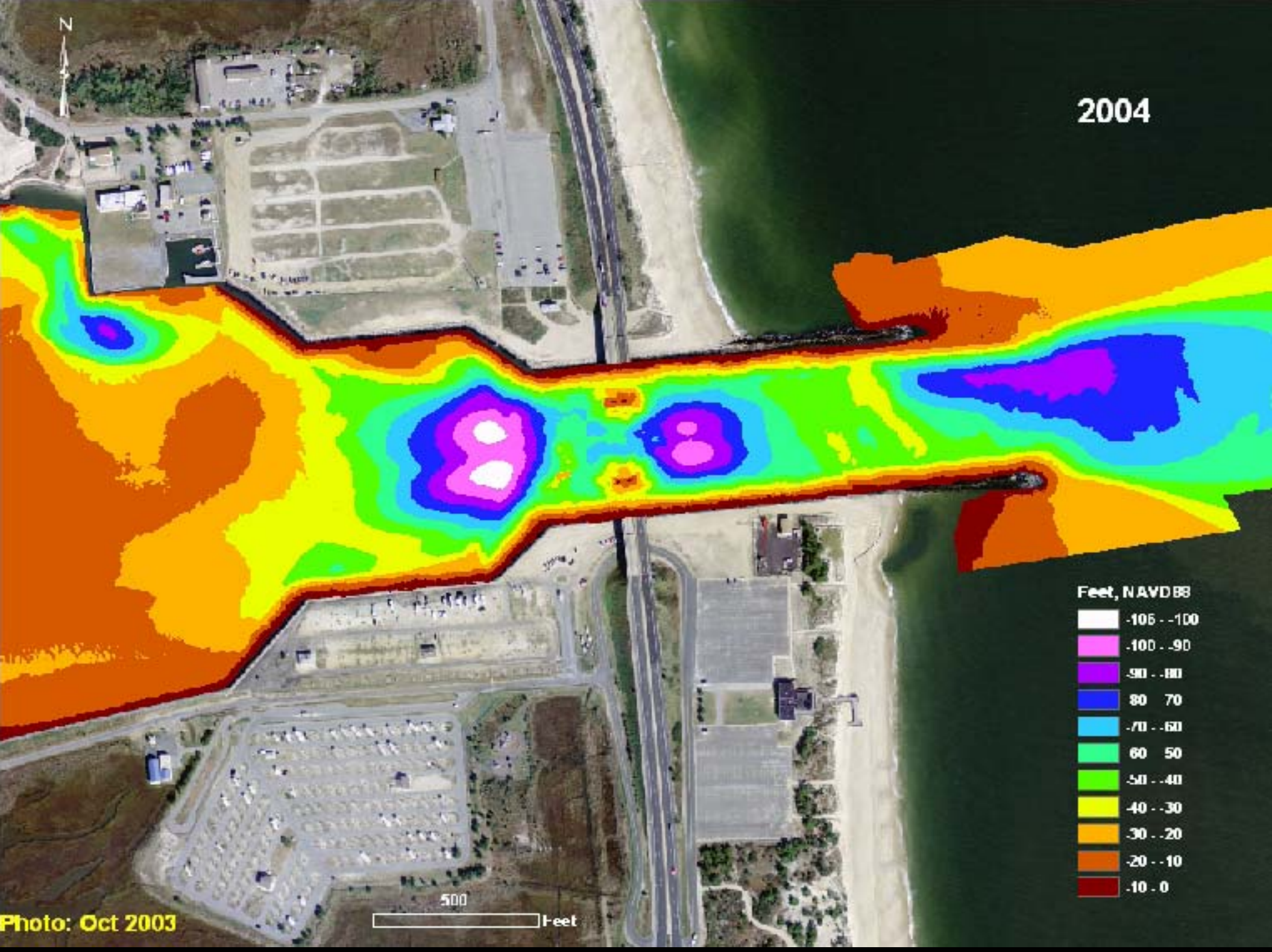
- In 1965, when the current bridge was first built, the inlet was about 28' deep at the center and 23 ft deep at the piers.
- In the 1980's, a diver's underwater inspection indicated that the footings for the pier foundations were undermined. Riprap was placed as a scour countermeasure around and between foundation elements.



Existing Bridge Condition

- Since the 1980's, some additional pier foundation exposure has occurred.
 - Steel H-piles partially exposed to salt water.
 - Cathodic Protection System installed in 1980's.
 - Rapid soil erosion at piers has been prevented.
 - Scour holes in excess of 100' deep have developed.
- Scour holes in excess of 100 feet deep have developed within the inlet.
 - Rate of Deepening and Widening has been closely monitored.

2004



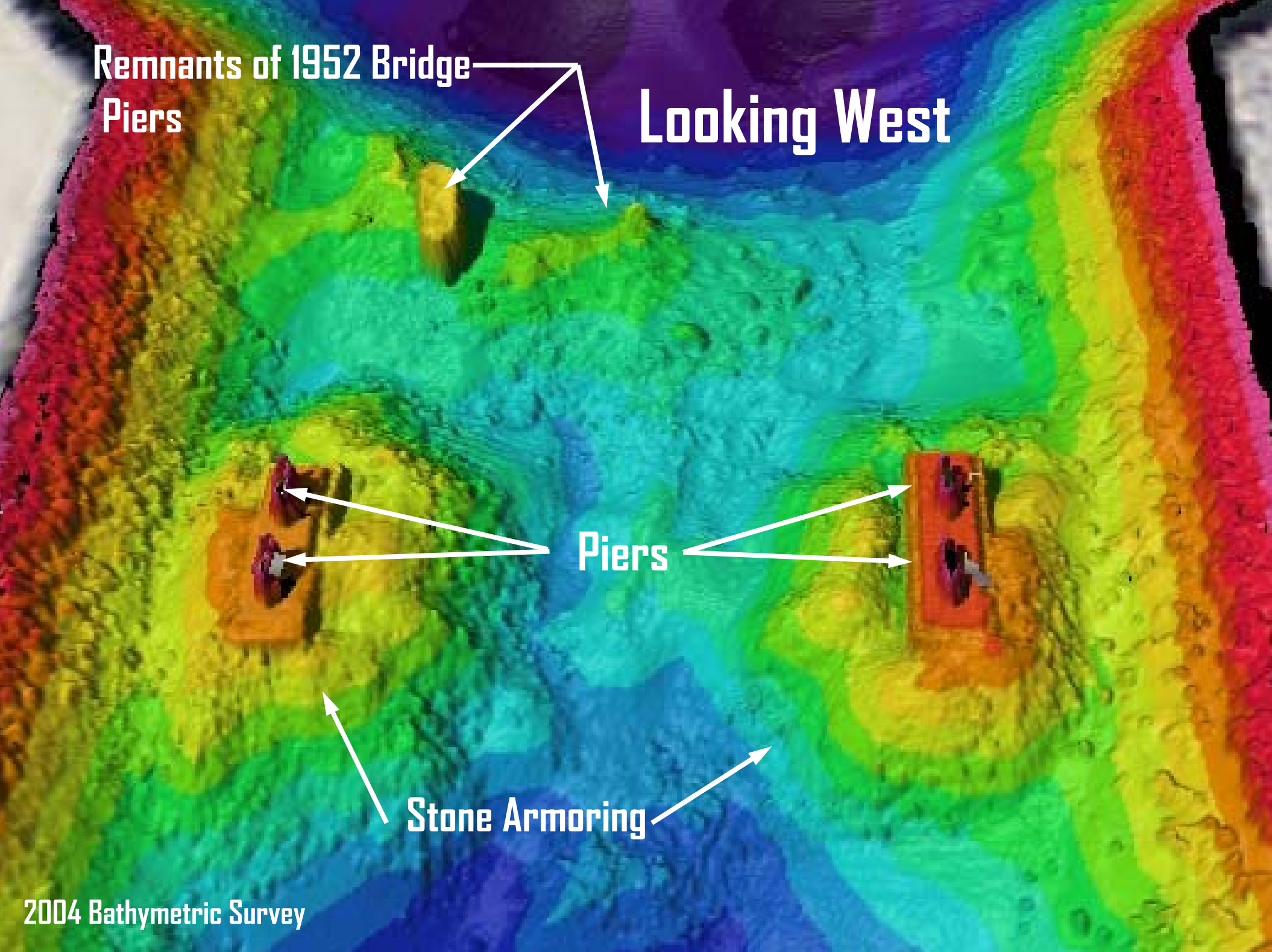
Remnants of 1952 Bridge
Piers

Looking West

Piers

Stone Armoring

2004 Bathymetric Survey

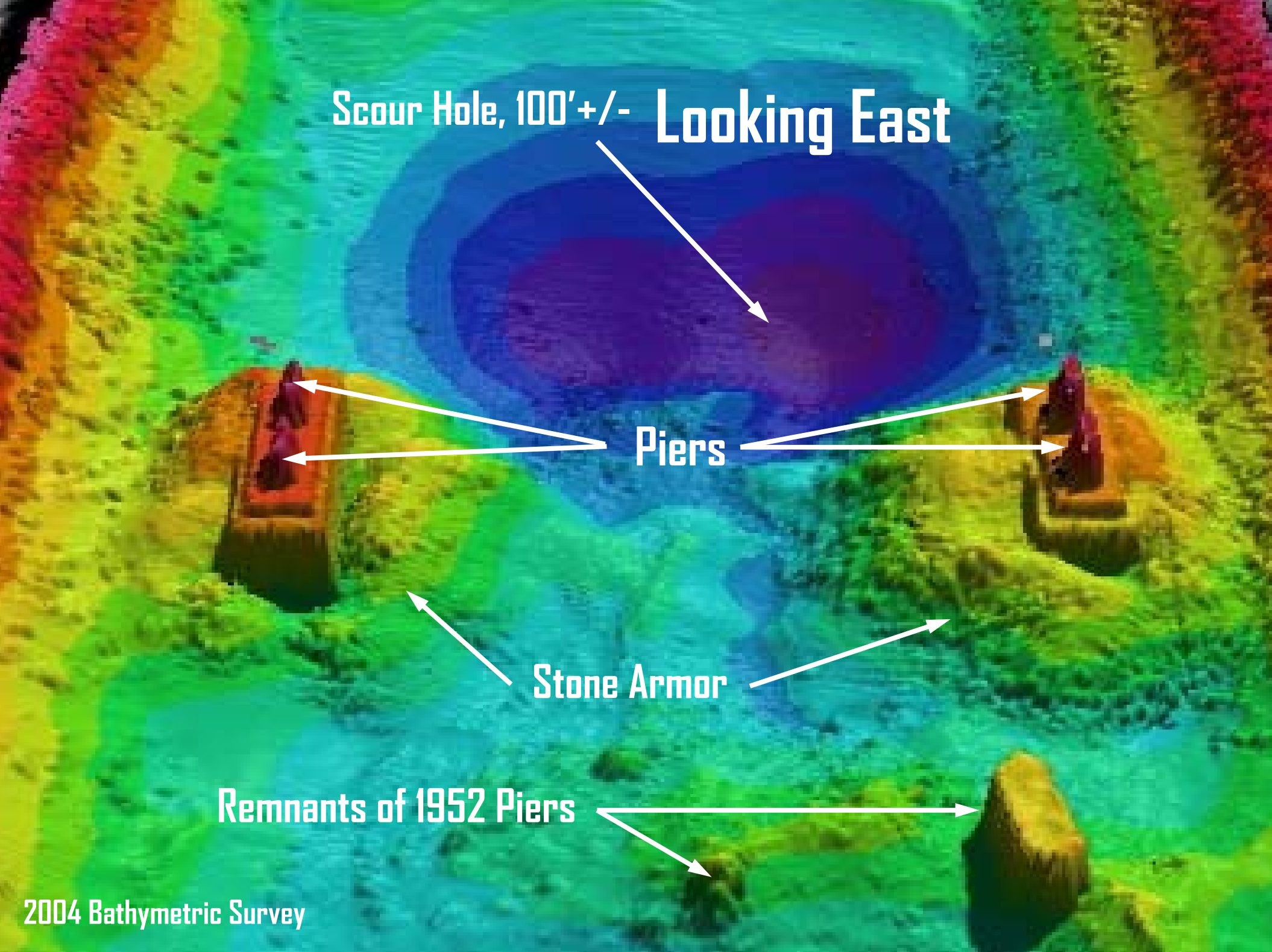


Scour Hole, 100'+/- Looking East

Piers

Stone Armor

Remnants of 1952 Piers



Existing Bridge Condition

- Discussions with the COE indicate that
 - the rate of deepening of the scour holes has slowed
 - the holes may be approaching a maximum depth for the existing inlet
 - the scour holes continue to widen laterally
- Rip rap protection appears to be currently stable but estimates, based on historical trends in Inlet, indicate that the stone protection could be undermined within 5-7 years due to the lateral widening of the scour holes
- Unprotected, the streambed material is estimated to erode within 6– 9 months, exposing the additional support piles

Existing Bridge Condition

- Continue to monitor
 - Underwater inspections and bathymetric surveys performed every year and after every major storm event to verify the location of riprap
 - Survey shots are taken monthly of the existing bridge to monitor movement
- Close Bridge if any sign of peril
 - Emergency contract for remediation would be developed
 - Minimize closure of roadway
- Proceed with plans to replace the existing bridge by Year 2010.

Original Bridge Concept

- Design Completed
 - New Alignment West of Existing
 - Right-of Way Obtained
 - Permitting Process Completed
 - Utility Coordination Completed
 - Traffic Phasing and Roadway Work
 - Park Improvements Coordinated
 - Extensive Public Involvement
 - four (4) Public Information Workshops and
 - two (2) Design Charettes
 - Single rib cable-supported arch bridge selected

Original Bridge Concept

- Design Phase completed and advertised in 2005
- Separate contracts issued for roadway, bridge, park, and utility work
 - Advanced utility contract awarded to local contractor (Kuhn Construction)
 - Roadway work awarded to local contractor (Kuhn Construction)
 - Park Improvement contract to be issued towards end of bridge construction
 - Bridge Contract advertised last summer
 - 7 pre-qualified contractors for bridge work (combined into 5 teams)
 - Bidding time extended (6 weeks to 16 weeks)
 - Construction duration extended (3 years to 5 years)
 - Appeared we would get only 1 bidder – without competition bid projected well over budget
 - October 4, 2005 bids cancelled

Current Bridge Concept

- Will utilize Design-Build contract delivery method.
 - 2-step Procurement Process
 - Shortlist 3 pre-qualified design-build teams
 - “Best Value” Selection based on technical and cost proposals
 - Scope primarily limited to bridge activities
 - Define lane configuration and underclearance requirements (1000’ Main span)
 - DelDOT will not define bridge type and/or style
 - Provide budget parameters at the beginning of the procurement process
 - Heavily weight bridge delivery schedule in evaluation of proposals

Indian River Inlet Project Area



In addition to the bridge project, the overall improvements to the Indian River Inlet Project Area were divided up into separate projects to include:

- Utility (overhead to underground/in bridge) relocation
- Roadway Improvements
- Delaware Seashore State Park Improvements
- Existing Bridge Demolition

This was done to facilitate competition amongst the contracting community.

Advance Utility Relocation Project



- Most of the existing Utilities have been or will be relocated under the inlet. The crossings under the inlet have been completed for the following utilities:

- Verizon – Telephone (on existing bridge)
- Sussex County Sewer (No existing crossing)
- Sussex Shores Water (No existing crossing)

The crossings under the inlet for the remaining electrical utilities are projected to be completed in the next few years:

- Delmarva Power - Electric Transmission (on High Tension structures)
- Delmarva Power - Electric Distribution (on existing bridge)
- The DNREC Sand Bypass system, located currently on the existing bridge, will be relocated to the new bridge.

Advance Utility Relocation Project



Roadway Improvements Project



The Roadway Improvements Project consists of the following activities:

- Construction of new approach roads of the new bridge.
 - MSE Walls
 - Approach fills with expected settlement
 - Scour protection for MSE walls and bridge abutments
- Construction of Ingress and egress from SR 1 to the Delaware Seashore State Park.
- Construction of wetland mitigation sites
- Maintenance of Traffic

Roadway Improvements Project



- The chosen alignment provides a smooth horizontal transition to the existing roadways and minimizes the extent of roadway construction.
- It minimizes impacts to wetlands, the protected dunes and the surrounding parkland as compared to the other alternatives.



Existing Roadway Contract Status

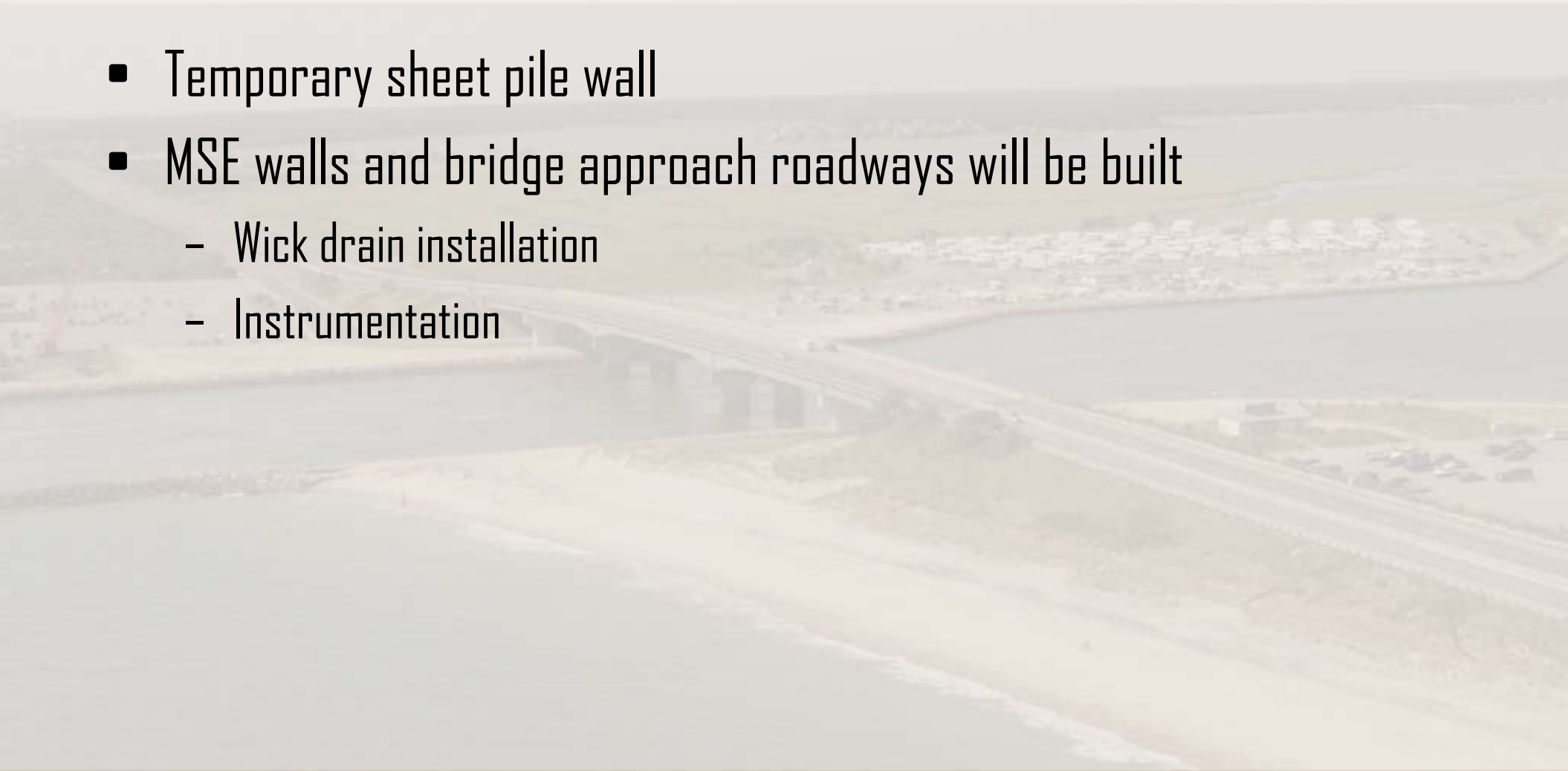


The Roadway contract was bid, awarded and started last summer. The contractor is Kuhn Construction of Delaware. Work completed to date:

- SR-1 Widening
 - Temporary widening
- Park access roads
 - Access Road A
 - Access Road B
 - Access Road C
- Environmental Mitigation

Existing Roadway Contract Status

- Temporary sheet pile wall
- MSE walls and bridge approach roadways will be built
 - Wick drain installation
 - Instrumentation



Existing Roadway Contract Status



Existing Roadway Contract Status



Temporary sheet pile on north side





Existing Roadway Contract Status



Wick Drain Installation

Existing Roadway Contract Status



New Access Road B



Access Road A & B



Access Road C

Existing Roadway Contract Status



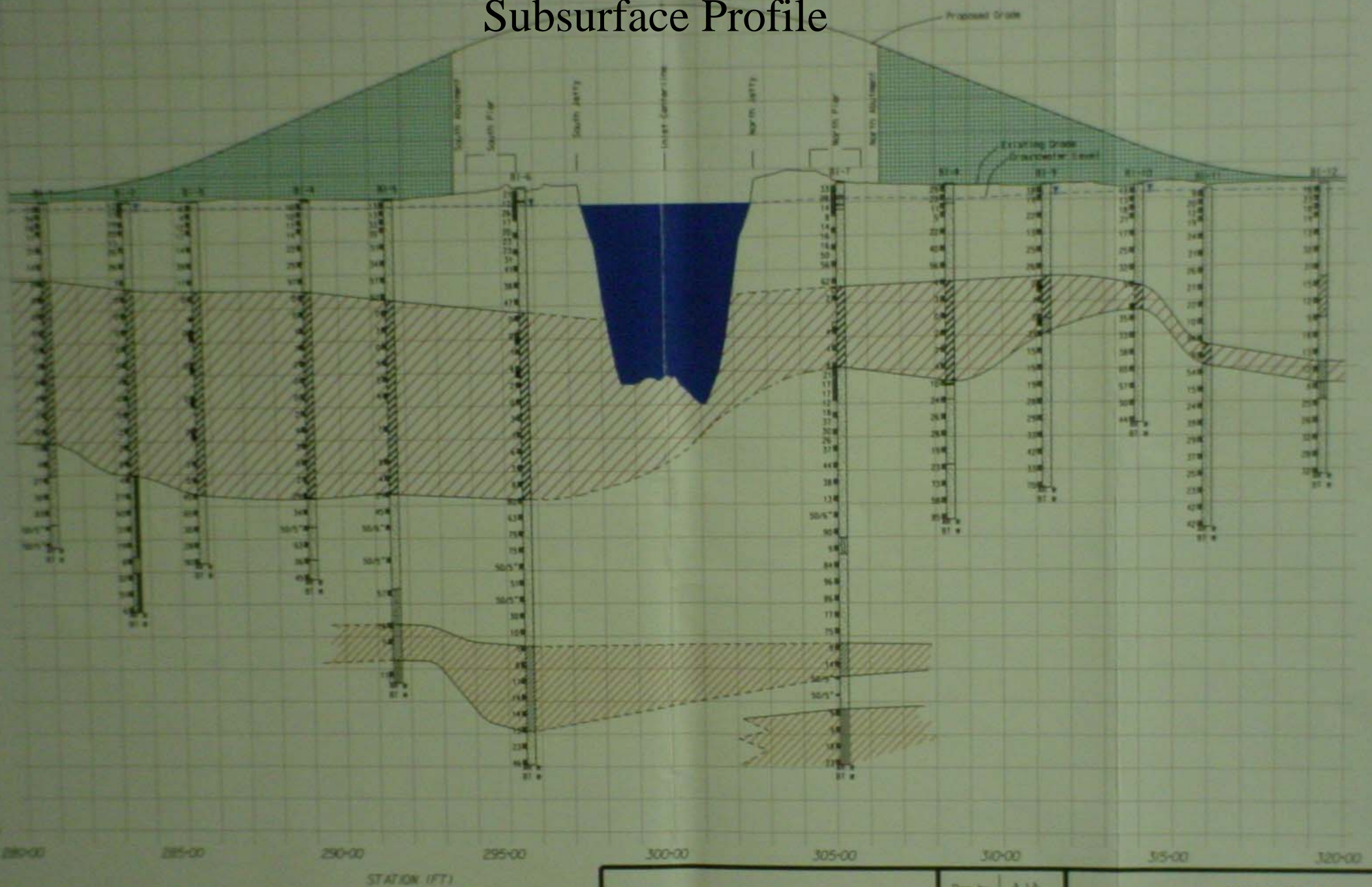
Fresh Ponds South



**North side of the Inlet staging area
fenced for the Bridge Contractor**



Subsurface Profile



MACTEC
ENGINEERING AND CONSULTING, INC.
1806 Oremby Lane, Richmond, VA 23225

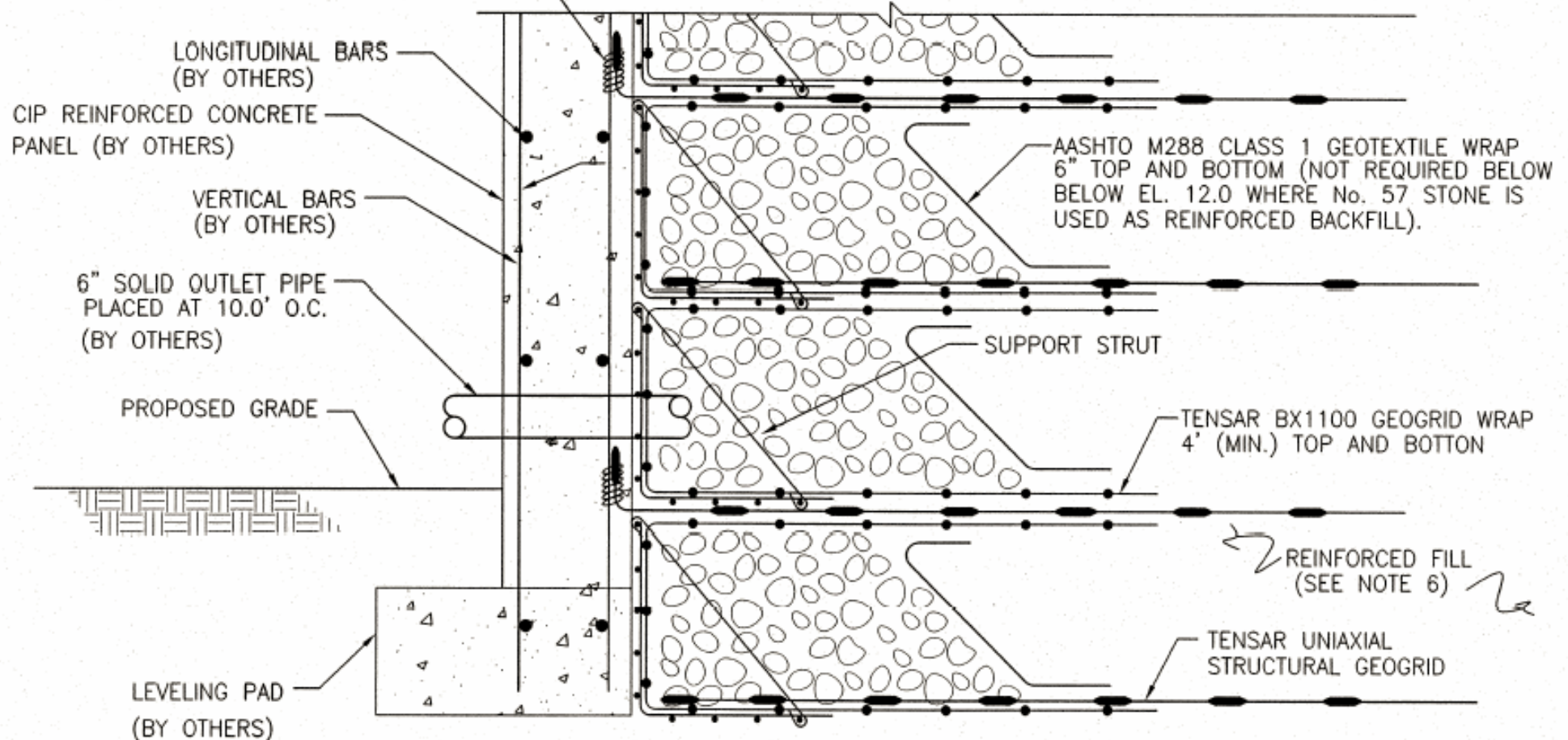
Des. by A.J.A.
Dm. by A.J.A.
Rev. by C.E.B.

FIGURE 3
ESTIMATED SUBSURFACE

3530-03-1245.01

09/26/03

CONTRACTOR SHALL TIE AND SECURE GEOGRID TABS TO REBAR CAGE WITH CABLE TIES OR EQUIVALENT.



FACING DETAIL OF TWO-STAGE WALL

NOT TO SCALE





Park Enhancement Project

- 88 new RV sites
- 126 new camp sites
- North Bath house
- Laundry
- 3 Contact stations
- Park office



New Laundry Facilities



New Bathhouses

Park Enhancement Project

Several park elements were studied when developing conceptual site plans for the Delaware Seashore State Park:

- Park Access
- Beach Use Area
- Contact Stations
- RV Camping
- Marina
- Bathhouses
- Inlet Promenade
- Recreation and Playground Areas



Existing Bridge Demolition

- Top down removal
- Possible Artificial reef 5 miles off shore
- Cut off at Rip Rap line or level to enhance inlet hydraulics TBD by the Corps



Indian River Inlet Bridge



Questions?



Project Website – www.irib.deldot.gov